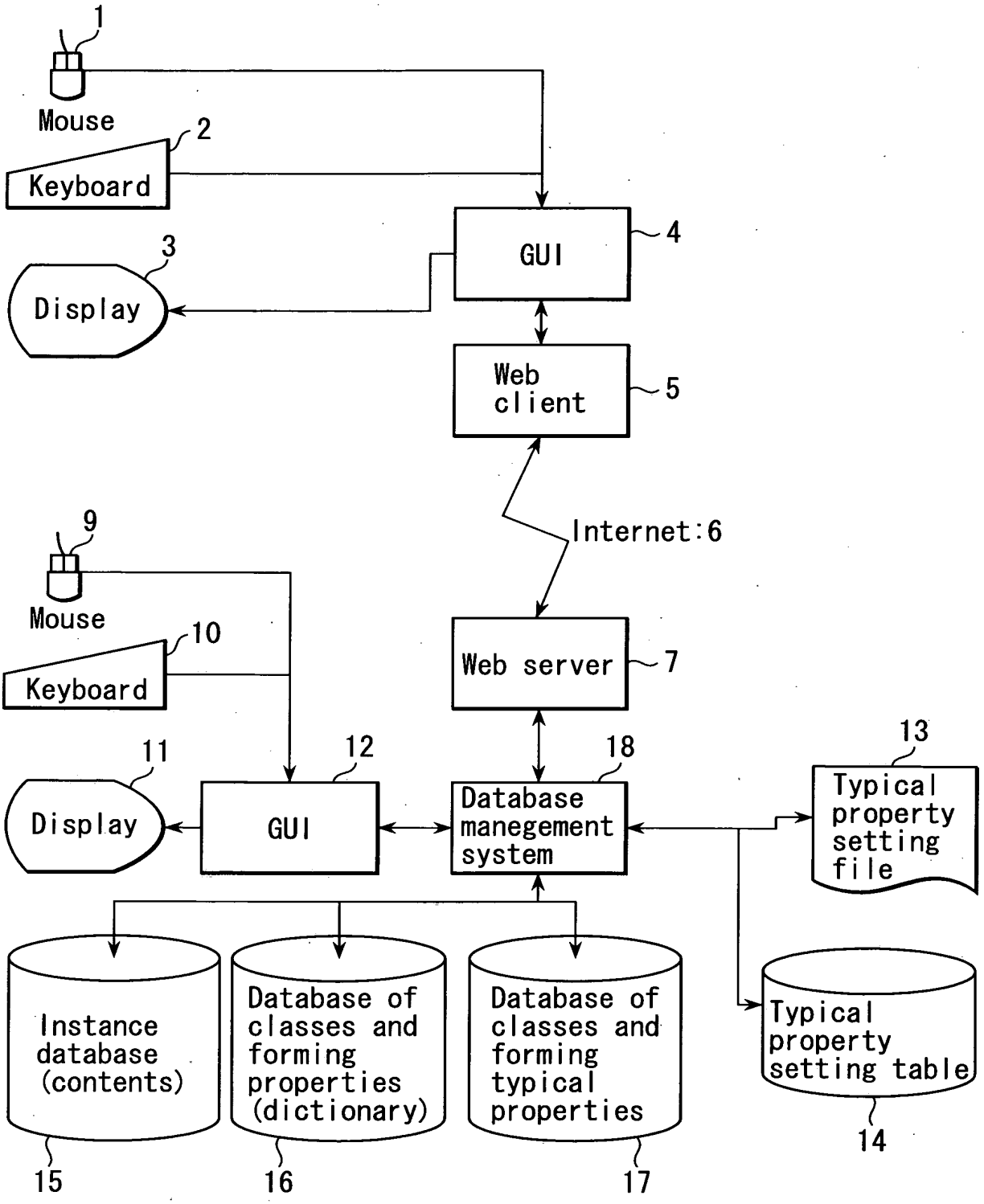
1
Mouse
2
Keyboard
3
Display
GUI
4
Web client
5
Internet:6
9
Mouse
10
Keyboard
Web server
7
11
Display
12
GUI
18
Database manegement system
13
Typical property setting file
Instance database (contents)
15
Database of classes and forming properties (dictionary)
16
Database of classes and forming typical properties
17
Typical property setting table
14

FIG. 1

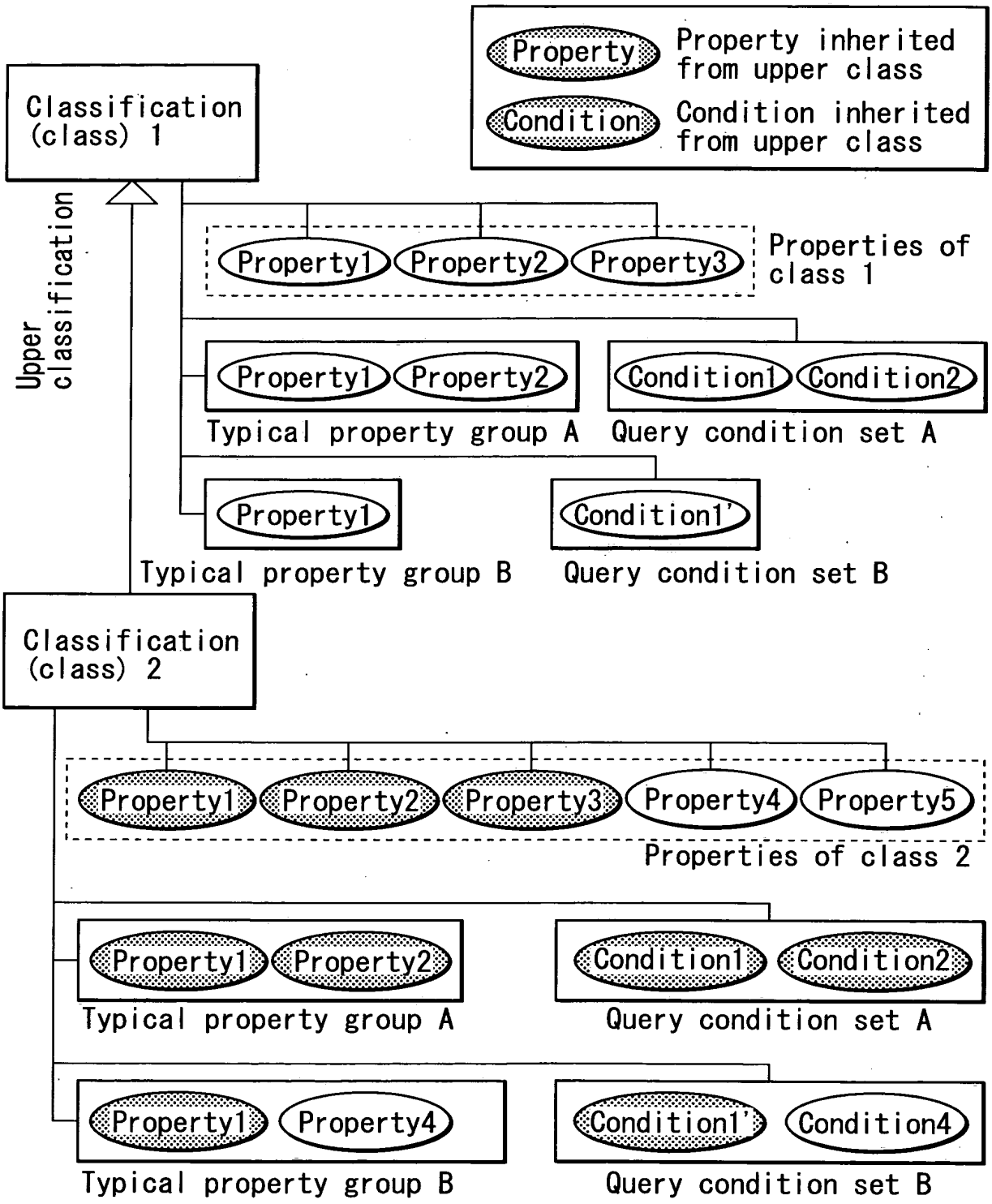
Property
Property inherited from upper class
Condition
Condition inherited from upper class
Classification (class) 1
Upper classification
Property1
Property2
Property3
Properties of class 1
Property1
Property2
Typical property group A
Condition1
Condition2
Query condition set A
Property1
Typical property group B
Condition1'
Query condition set B
Classification (class) 2
Property1
Property2
Property3
Property4
Property5
Properties of class 2
Property1
Property2
Typical property group A
Condition1
Condition2
Query condition set A
Property1
Property4
Typical property group B
Condition1'
Condition4
Query condition set B

FIG. 2

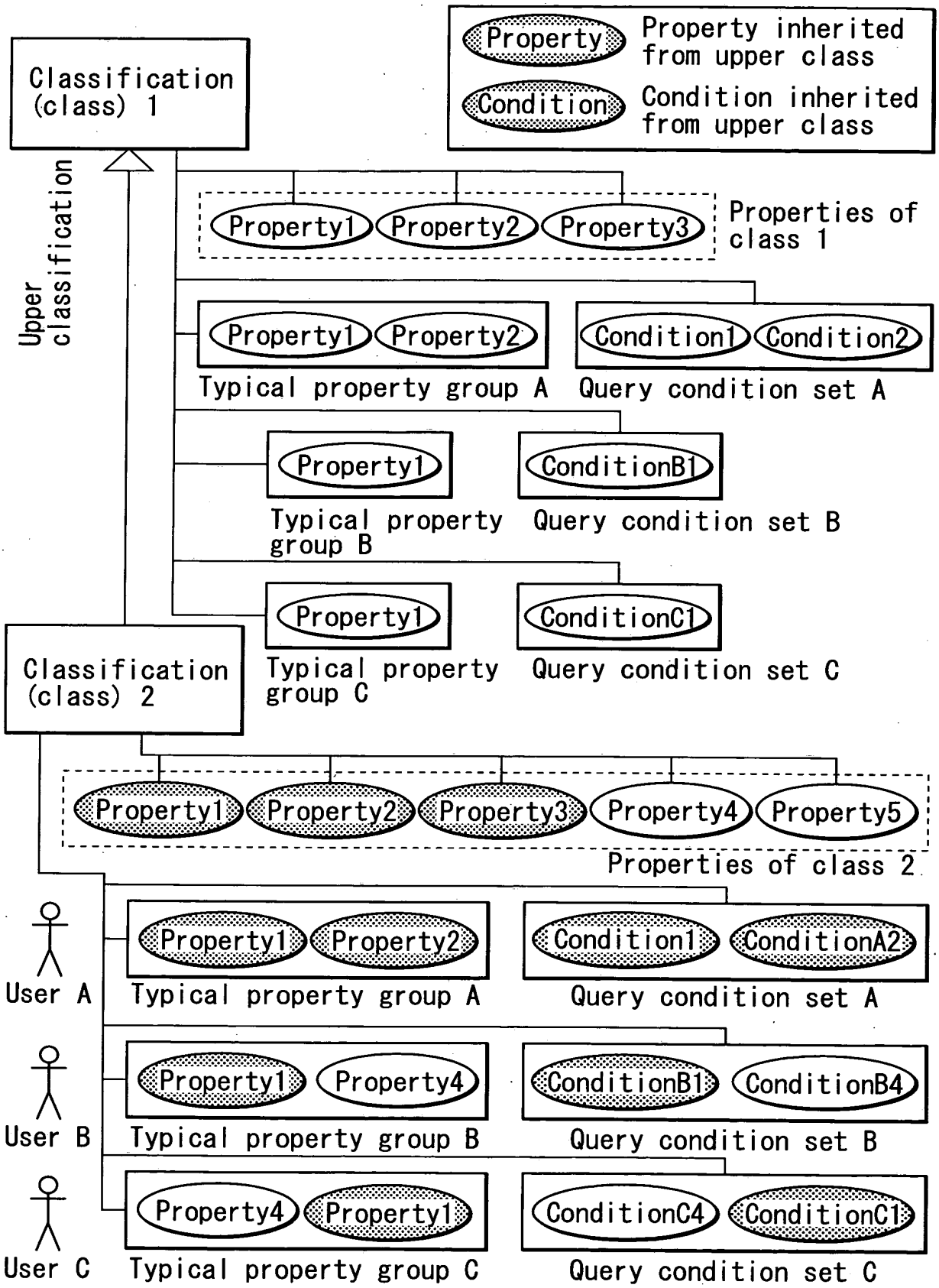
Property
Property inherited from upper class
Condition
Condition inherited from upper class
Classification (class) 1
Upper classification
Property1
Property2
Property3
Properties of class 1
Property1
Property2
Typical property group A
Condition1
Condition2
Query condition set A
Property1
Typical property group B
ConditionB1
Query condition set B
Property1
Typical property group C
ConditionC1
Query condition set C
Classification (class) 2
Property1
Property2
Property3
Property4
Property5
Properties of class 2
User A
Property1
Property2
Typical property group A
Condition1
ConditionA2
Query condition set A
User B
Property1
Property4
Typical property group B
ConditionB1
ConditionB4
Query condition set B
User C
Property4
Property1
Typical property group C
ConditionC4
ConditionC1
Query condition set C

FIG. 3

Difinition class identifier	typical property group identifier	User/group name	E-mail
Class 1	A	○△ corporation sales	sales@marusan.co.jp
Class 1	B	Taro Yamada	taro@sample.co.jp
Class 1	B	Hanako Yamada	hana@sample.co.jp
Class 1	C	□○ corporation sales	sales@kakumaru.co.jp
Class 2	B	William Shakespear	Othello@sample.uk
Class 2	B	Ogai Mori	maihime@sample.jp
Class 2	B	Thomas Mann	Venice@sample.de
Class 2	A	○△ corporation sales	sales@marusan.co.jp
Class 2	C	User C	usr_c@sample.jp

FIG. 4

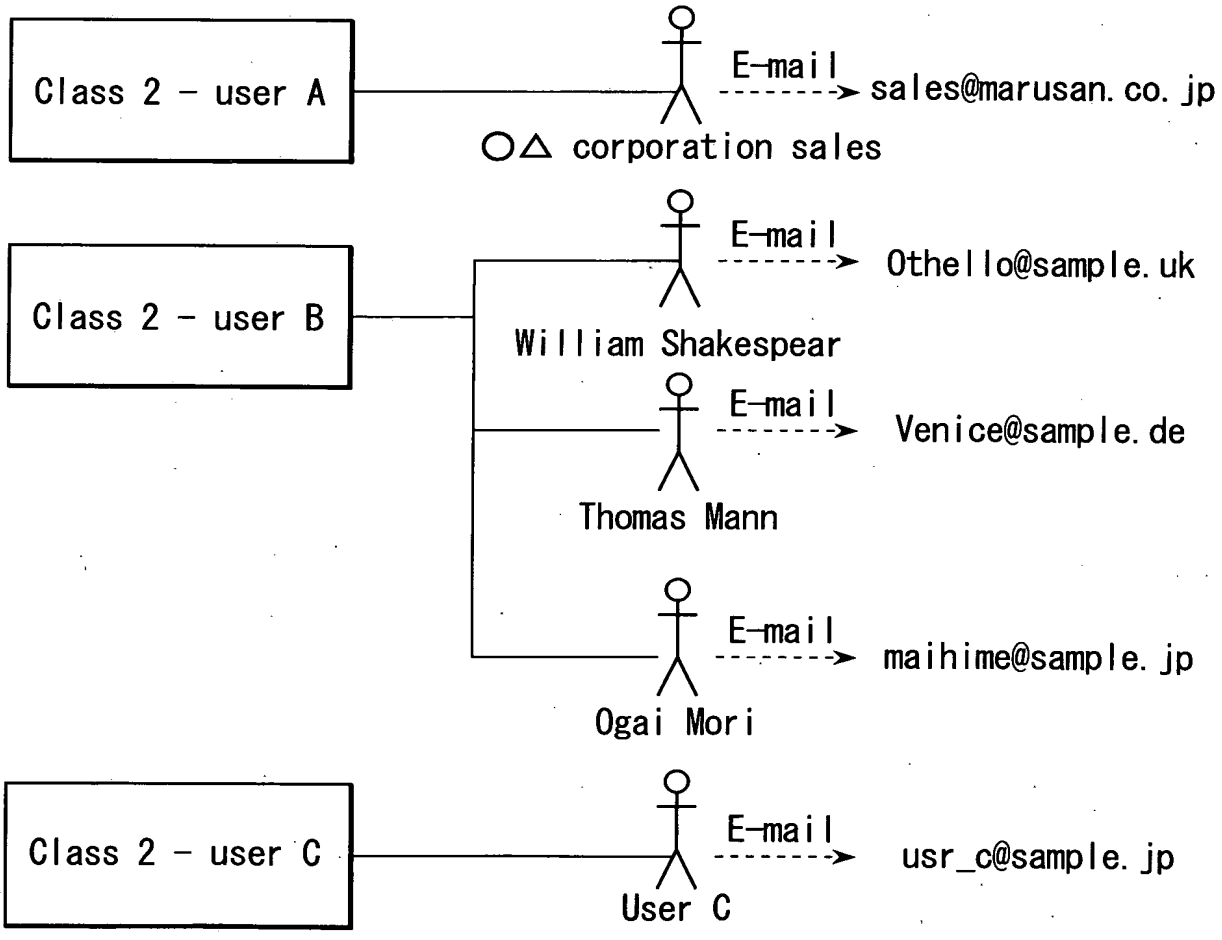

FIG. 5

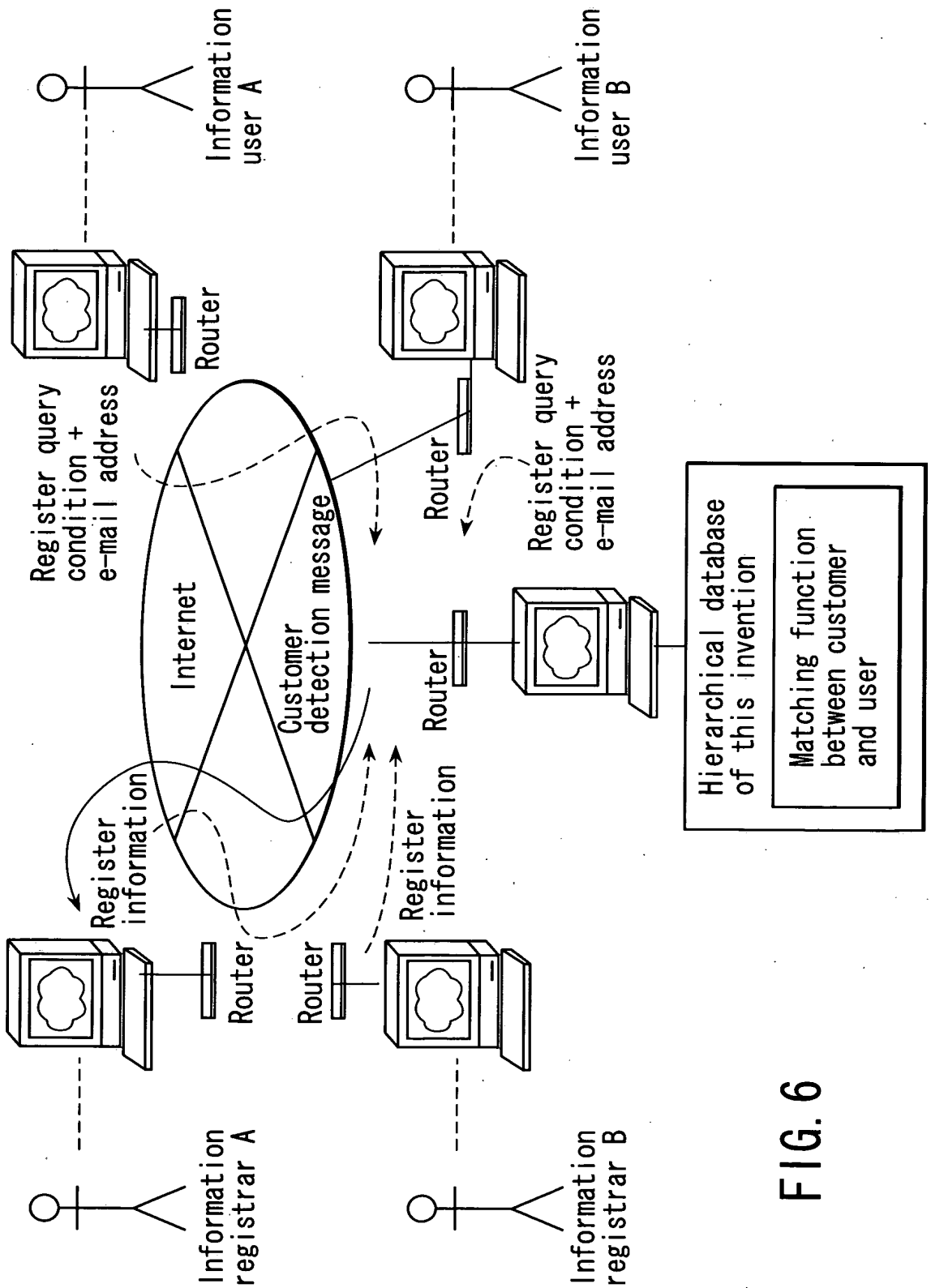
Information user A
Information user B
Router
Register query condition + e-mail address
Internet
Customer detection message
Register information
Hierarchical database of this invention
Matching function between customer and user
Information registrar A
Information registrar B

FIG. 6

Definition class identifier	Typical property group identifier	Property identifier	Rendering order	Positive/ negative inheritance	Query condition (example)
Class 1	A	Property 1	1	TRUE	1<Val<2
Class 1	A	Property 2	2	TRUE	Val=3
Class 1	B	Property 1	1	TRUE	1<Val<=4
Class 1	C	Property 1	1	TRUE	Val=5
Class 2	B	Property 4	2	TRUE	Val="○△ corporation"
Class 2	C	Property 4	2	TRUE	Val="□○ manufacturing"

FIG. 7

Class	Typical property group	Property	Query condition
Class 2	A	(Inheritance)Property 1	1<Val<2
		(Inheritance)Property 2	Val=3
	B	(Inheritance)Property 1	1<Val<=4
		Property 4	Val="○△ corporation"
	C	(Inheritance)Property 1	Val=5
		Property 4	Val="□○ manufacturing"

FIG. 8

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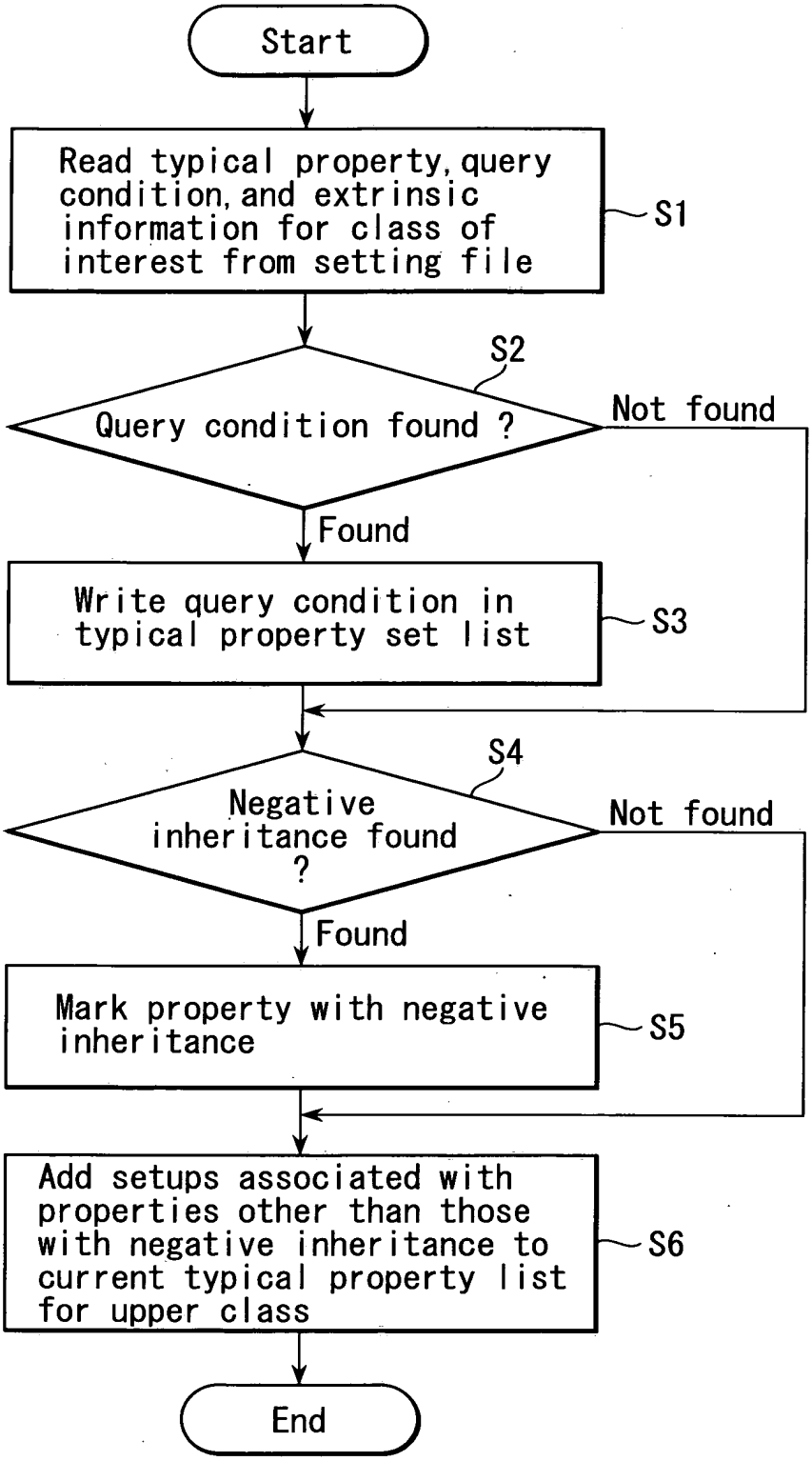
Start
Read typical property, query condition, and extrinsic information for class of interest from setting file
S1
S2
Query condition found ?
Not found
Found
Write query condition in typical property set list
S3
S4
Negative inheritance found ?
Not found
Found
Mark property with negative inheritance
S5
Add setups associated with properties other than those with negative inheritance to current typical property list for upper class
S6
End

FIG. 9

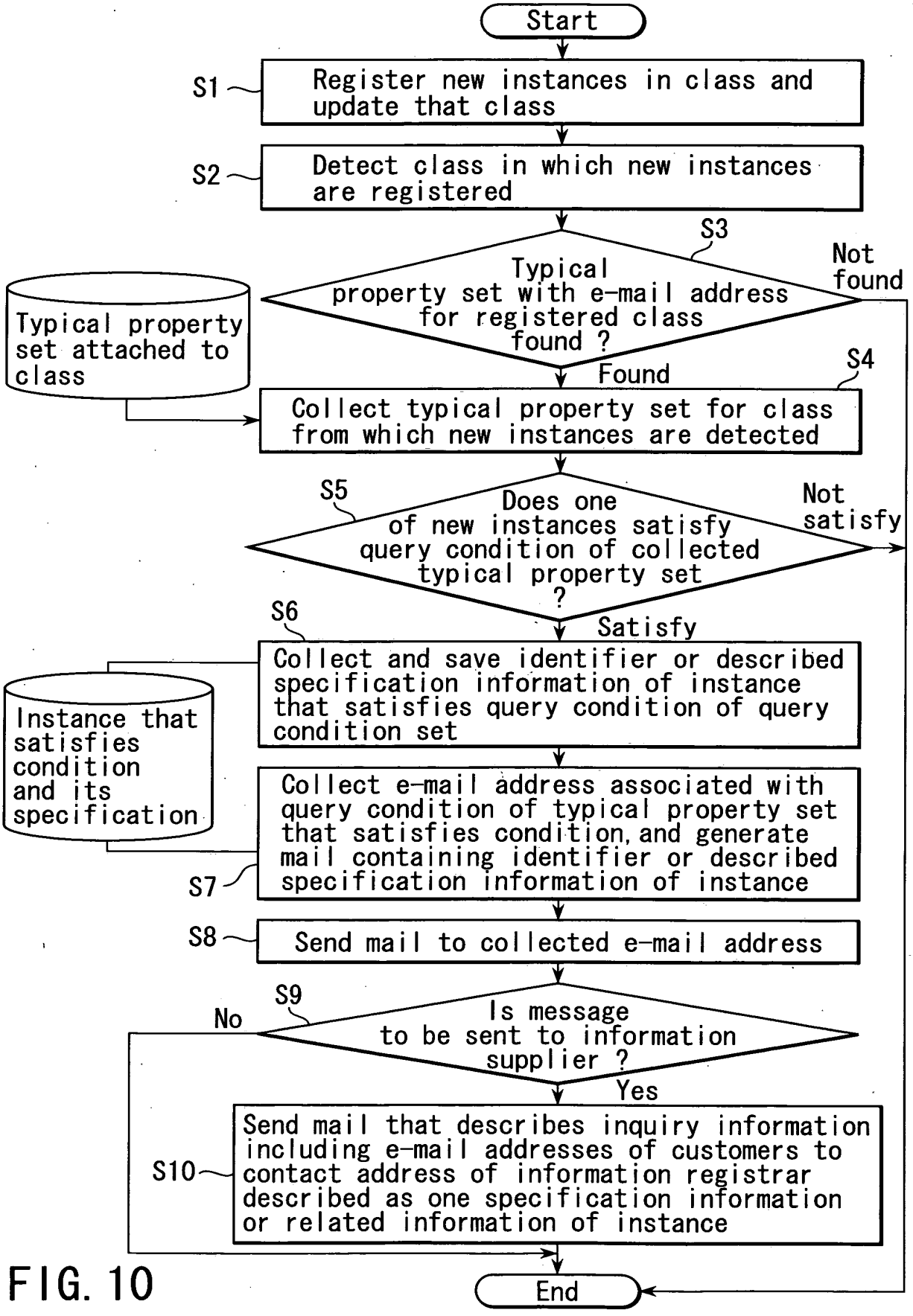
Start
S1
Register new instances in class and update that class
S2
Detect class in which new instances are registered
S3
Typical property set with e-mail address for registered class found ?
Not found
Found
Typical property set attached to class
S4
Collect typical property set for class from which new instances are detected
S5
Does one of new instances satisfy query condition of collected typical property set ?
Not satisfy
Satisfy
S6
Collect and save identifier or described specification information of instance that satisfies query condition of query condition set
Instance that satisfies condition and its specification
Collect e-mail address associated with query condition of typical property set that satisfies condition, and generate mail containing identifier or described specification information of instance
S7
S8
Send mail to collected e-mail address
S9
Is message to be sent to information supplier ?
No
Yes
S10
Send mail that describes inquiry information including e-mail addresses of customers to contact address of information registrar described as one specification information or related information of instance
End

FIG. 10

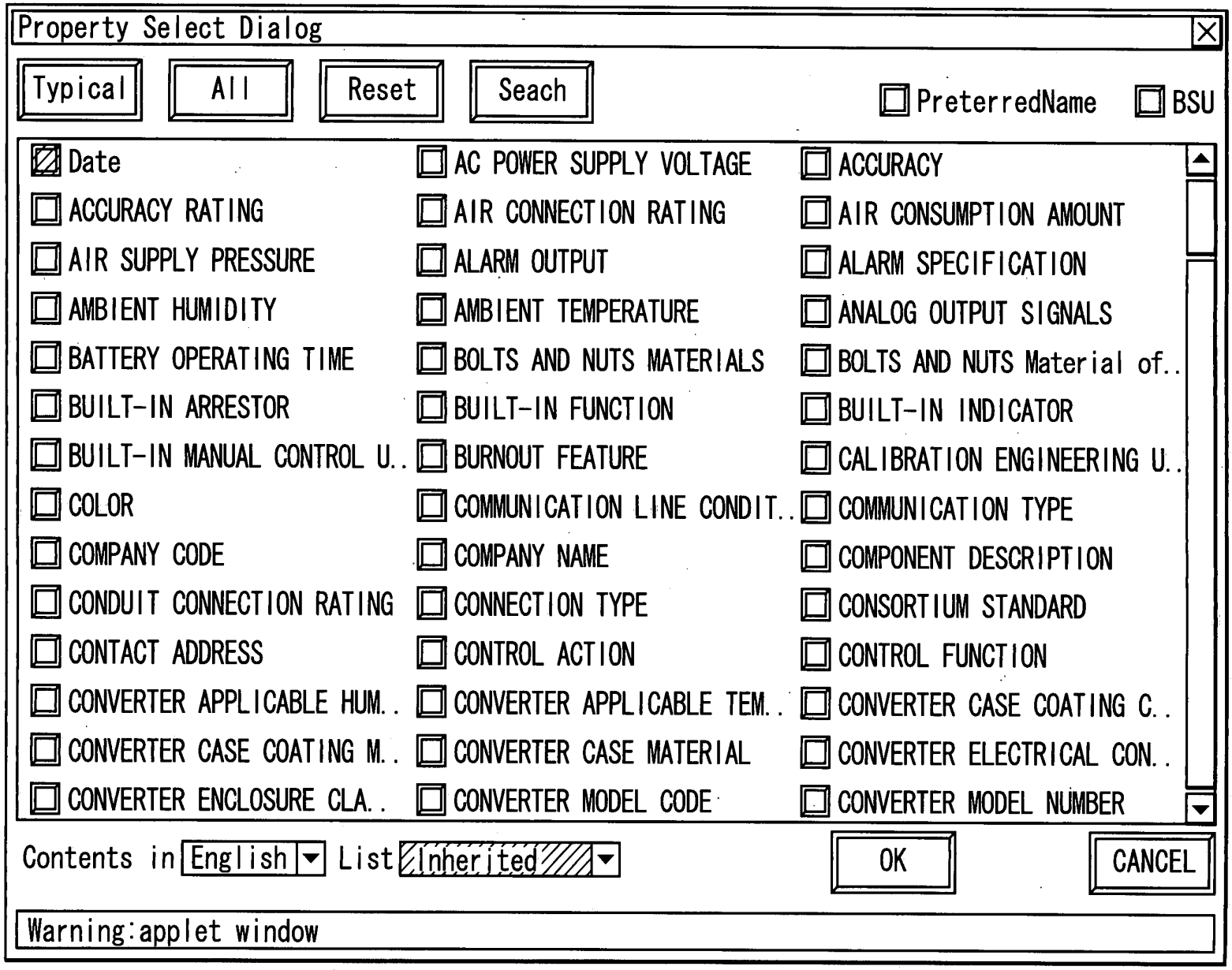

FIG. 11

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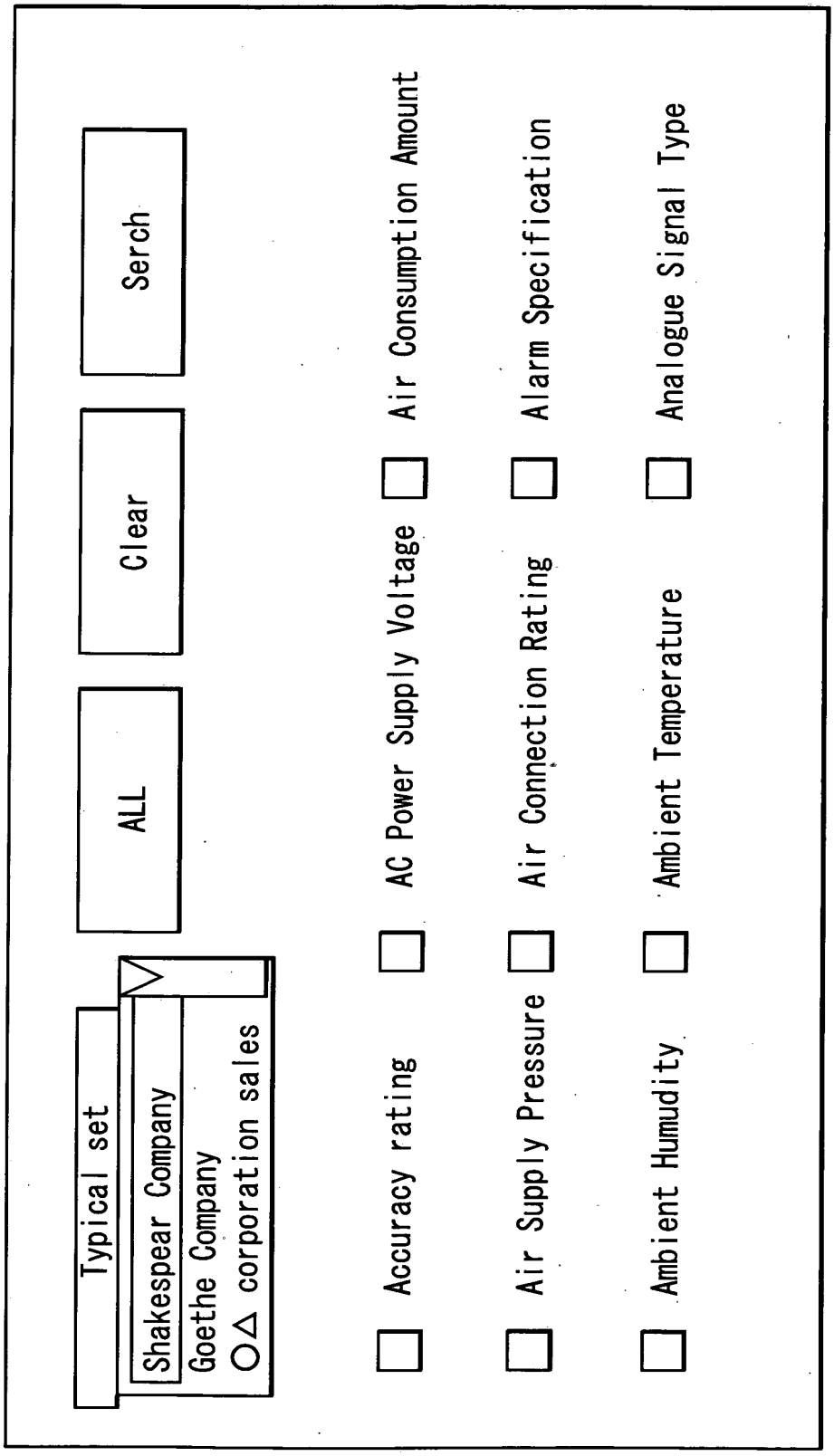
Typical set
Shakespear Company
Goethe Company
○△ corporation sales
ALL
Clear
Serch
Accuracy rating
AC Power Supply Voltage
Air Consumption Amount
Air Supply Pressure
Air Connection Rating
Alarm Specification
Ambient Humudity
Ambient Temperature
Analogue Signal Type

FIG. 12

```
# Sample file for setting Typical data
#
#

PROJECT SandS
# For COMPONENTS class
SandS_A113.9999/IECROOT.AAA001.AAE752 300<=Value<=800
SandS_A113.9999/IECROOT.AAA001.JCIE002 Value=%tothiba%
SandS_A113.9999/IECROOT.AAA001.JCIE003 6<=Value

# For MOTORS class
SandS_A113.9999/IECROOT.AAA160.JCIMTE011 0<=Min 999<=Max<=1000
SandS_A113.9999/IECROOT.AAA160.AAE752 Value=<=700
SandS_A113.9999/IECROOT.AAA160.JCIMTE008
SandS_A113.9999/IECROOT.AAA160.JCIE004

# For FLOW METER class
SandS_A113.9999/IECROOT.JCIFM001.JCIFME009 Value<=0.25
SandS_A113.9999/IECROOT.JCIFM001.JCIFME006 Value=m3/h
SandS_A113.9999/IECROOT.JCIFM001.JCIFME028

# For LOW VOLTAGE THREE PHASE NP ENCLOSURE CAGE INDUCTION
MOTORS class
SandS_A113.9999/IECROOT.JCIMT023.JCIMTE032
SandS_A113.9999/IECROOT.JCIMT023.JCIMTE005 Value=true

# For CALS3-CV class
SandS_A113.9999/IECROOT.JCICV006.CLAS3CV01.JCICVE070 Vlue=%AAA0%
END
```

FIG. 13

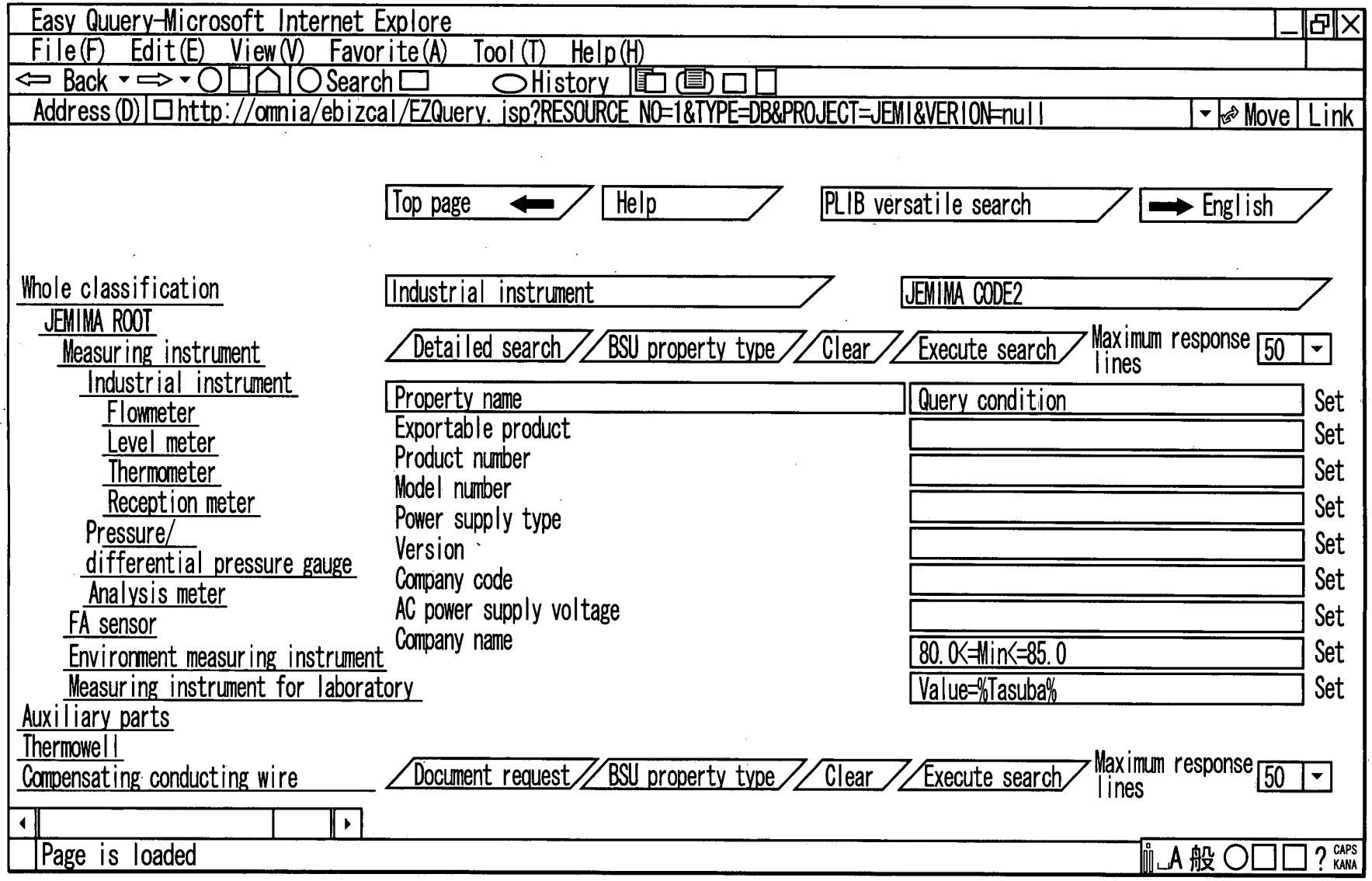

FIG. 14

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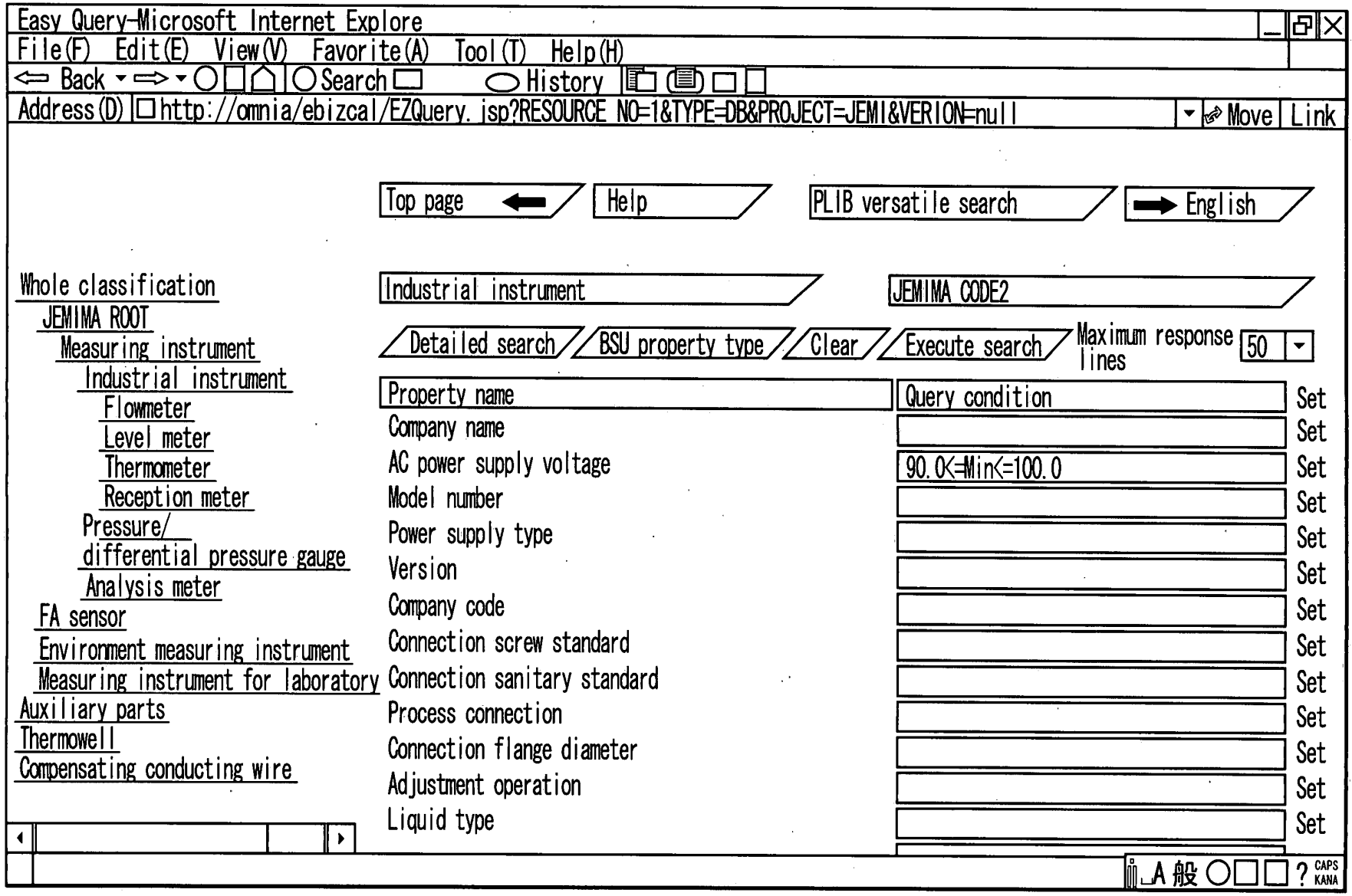

FIG. 15

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```
PROJECT JEMI
#JEMIMA_ROOT
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_ROOT.JEMIMA_P000010
# Measuring instrument
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.JEMIMA_P000002
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.JEMIMA_P000004
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.JEMIMA_P000297
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.XJE010
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.JEMIMA_P000013
# Industrial instrument
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0002.JEMIMA_P000014 80<=Min<=85
jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0002.XJE011 Value=%toshiba%
# Flowmeter
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.XJE011
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000014 90<=Min<=100
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000002
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000004
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000297
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.XJE010
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0001.JEMIMA_P000013
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000198
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000061
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000025
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000037
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000549
```

FIG. 16

```
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000520
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000559
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000560
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000533
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000534
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000528
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000056
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0003.JEMIMA_P000060

# Thermometer
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0069.JEMIMA_P000244
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0069.JEMIMA_P000246
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0069.XJE011 Value=%hitachi%

# Reception meter
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0114.JEMIMA_P000460

# Pressure/differential pressure gauge
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0126.JEMIMA_P000183
Jemima02Demo_v5.9999/JEMIMA.JEMIMA_C0126.JEMIMA_P000619

END
```

FIG. 17